CLAIMS

1. A method for controlling elements that execute elementary functions of an internal combustion engine (2), wherein the elements (11, 16, 19, 21, 27-31) are controlled by means of measured signals delivered by sensors (27-31), characterized in that theoretical signals that should be delivered by reference sensors (27, 28, 29) at the current operating point of the engine are determined, the differences between the theoretical signals and the signals measured by the reference sensors (27, 28, 29) are determined, and correction instructions for signals for the elements (11, 16, 19, 21, 27-31) are created as a function of the calculated differences.

2. A method according to claim 1, characterized in that at least one reference sensor is an oxygen sensor (27, 28) disposed on the exhaust line (4) of the internal combustion engine (2).

3. A method according to any one of claims 1 or 2, characterized in that at least one reference sensor is a nitrogen oxide sensor (29) disposed on the exhaust line (4) of the internal combustion engine (2).

4. A method according to any one of the preceding claims, characterized in that an operating point of the engine (2) can be determined as a function of the engine speed and of the engine load, and of a temperature of the engine-cooling fluid.

5. A method according to any one of the preceding claims, characterized in that the theoretical measured signals that should be delivered by a reference sensor are determined on the basis of a reference map or table established beforehand for particular operating points.

6. A method according to any one of the preceding claims, characterized in that the correction instructions for control signals of an element are determined on the basis of a correction map or table established beforehand for particular operating points.

7. A method according to any one of the preceding claims, characterized in that a difference signal between the theoretical measured signals and the measured sensor signals is filtered before correction instructions are determined, in order to lengthen the reaction time or the time for application of correction instructions.

8. A method according to any one of the preceding claims, characterized in that at least one executing element is chosen among: an exhaust-gas recirculation valve (16), an injector (19), a solenoid valve (48) for the turbine geometry of the turbo device, a pressure sensor (30) in a common fuel-supply rail (18), a flow sensor (31) in an air-supply line or an air-intake butterfly valve (11), or a pressure sensor (51) in an intake manifold (9).

9. A drive assembly comprising an internal combustion engine (2) and elements (11, 16, 19, 21, 27-31), including reference sensors (27, 29), that execute associated elementary functions, and a control unit (6), characterized in that the control unit (6) is equipped with means (34, 35, 38, 39) for comparing measured signals originating from reference sensors with theoretical measured signals at the operating point of the engine, and with means (37) for determining correction instructions for signals for the executing elements as a function of a difference between the measured signals originating from reference sensors and the theoretical measured signals.

10. A motor vehicle equipped with a drive assembly according to claim 9.